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MATERIAL SAFETY DATA SHEET

HELENA LABORATORIES
1530 Lindbergh Dr./P.O. Box 752
Beaumont, TX 77704-0752
USA Toll Free 800-231-5663

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DATE PREPARED: 6/12/2002
REVISION: 1

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1. IDENTIFICATION:

PRODUCT NAME: REP CK-8 ISOENZYME KIT

PRODUCT NO.: 3072

2. INGREDIENTS (THE ABOVE KIT CONTAINS THE FOLLOWING ITEMS) :

Table with 3 columns: PRODUCT NUMBER, PRODUCT IDENTIFICATION (LABEL NAME), COMMENTS. Row 1: 500971, REP CK-8 GEL. Row 2: HAZARDOUS INGREDIENT THIMEROSAL, CAS # 54-64-8, % < 1.0, MSDS ATTACHED.

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ATTACHED ARE THE MSDS'S FOR THE ABOVE NAMED HAZARDOUS INGREDIENTS.

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DATE PREPARED: 5/31/2002  
 REVISION: 3

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1. IDENTIFICATION:

NAME: THIMEROSAL

CAS #: 54-64-8

MOLECULAR FORMULA: C9H10HG02S

SYNONYMS: ((O-CARBOXYPHENYL) THIO)ETHYLMERCURY SODIUM SALT \* ELCIDE  
 75 \* ELCIDE \* ETHYL(2-MERCAPTOBENZOATO-S)MERCURY SODIUM SALT \* O-  
 (ETHYLMERCURITHIO)BENZOIC ACID SODIUM SALT \*  
 ETHYLMERCURITHIOSALICYLIC ACID SODIUM SALT \*  
 ETHYLMERKURITHIOSALICILAN SODNY (CZECH) \* ETHYL (SODIUM O-  
 MERCAPTOBENZOATO)MERCURY \* MERCUROTHIOLATE \* MERCURY, ETHYL(2-  
 MERCAPTOBENZOATE-S)-, SODIUM SALT \* MERFAMIN \* MERTHIOLATE \*  
 MERTHIOLATE SALT \* MERTHIOLATE SODIUM \* MERTORGAN \* MERZONIN \*  
 MERZONIN SODIUM \* MERZONIN, SODIUM SALT \* SET \* SODIUM ETHYLMERCURIC  
 THIOSALICYLATE \* SODIUM O-(ETHYLMERCURITHIO)BENZOATE \* SODIUM  
 ETHYLMERCURITHIOSALCYLATE \* SODIUM MERTHIOLATE \* THIMEROSAL \*  
 THIMEROSALATE \* THIMEROSOL \* THIMERSALATE \* THIOMEROSAL \* THIOMERSAL  
 \* THIOMERSALATE \*

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2. HAZARDOUS INGREDIENTS:

CHEMICAL NAME/COMMON NAME CAS #	%	EXPOSURE LIMITS	
		OSHA PEL	ACGIH TLV
THIMEROSAL 54-64-8	100.0	0.1MG (HG) /M3	0.1MG (HG) /M3 SKIN

NA = Not Applicable  
 NL = Not Listed

NE = Not Established  
 NIF = No Information Found

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3. PHYSICAL DATA:

BOILING POINT: NIF SPECIFIC GRAVITY (H2O = 1): NIF
VAPOR PRESSURE (MM HG.): NIF MELTING POINT: 232°C TO 233°C (DEC)
VAPOR DENSITY (AIR = 1): NA SOLUBILITY IN WATER: SOLUBLE
APPEARANCE AND ODOR: WHITE POWDER

4. HEALTH HAZARD DATA:

PRIMARY ROUTE(S) OF ENTRY:
INHALATION? YES SKIN? YES INGESTION? YES
OSHA REGULATED? NA
CARCINOGENICITY: NTP? NA IARC? NA
ACUTE EFFECT OF OVEREXPOSURE: MAY CAUSE NERVOUS SYSTEM DISTURBANCES.
EYES: CAUSES EYE IRRITATION.
SKIN: MAY BE FATAL IF ABSORBED THROUGH THE SKIN. CAUSES SKIN IRRITATION.
INHALATION: MAY BE FATAL IF INHALED. MATERIAL IS IRRITATING TO UPPER RESPIRATORY TRACT.
INGESTION: MAY BE FATAL IF SWALLOWED. MATERIAL IS IRRITATING TO MUCOUS MEMBRANES.
CHRONIC EFFECTS OF EXPOSURE: LABORATORY EXPERIMENTS HAVE SHOWN MUTAGENIC EFFECTS, TARGET ORGANS: KIDNEYS, CENTRAL NERVOUS SYSTEM.

TOXICITY DATA:

RTECS NO.: OV8400000

Table with 2 columns: Test Name and Value. Rows include MERCURY, ((O-CARBOXYPHENYL) THIO) ETHYL-, SODIUM SALT and various LD50 values for different species and routes.

IRRITATION DATA

EYE-RBT 8 UG MLD AJOPAA 78,98,74

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4. HEALTH HAZARD DATA (CONT):

TARGET ORGAN DATA

- BEHAVIORAL (ATAXIA)
- GASTROINTESTINAL (NAUSEA OR VOMITING)
- KIDNEY, URETER, BLADDER (CHANGES IN TUBULES)
- EFFECTS ON FERTILITY (POST-IMPLANTATION MORTALITY)
- EFFECTS ON FERTILITY (ABORTION)
- EFFECTS ON EMBRYO OR FETUS (FETAL DEATH)
- TUMORIGENIC EFFECTS (UTERINE TUMORS)
- NUTRITIONAL AND GROSS METABOLIC (CHANGES IN: METABOLIC ACIDOSIS)
- TUMORIGENIC (NEOPLASTIC BY RTECS CRITERIA)
- TUMORIGENIC (TUMORS AT SITE OF APPLICATION)

ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES (RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR COMPLETE INFORMATION.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: NA

EMERGENCY AND FIRST AID PROCEDURES:

EYE CONTACT: IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. CALL A PHYSICIAN IMMEDIATELY.

SKIN CONTACT: IN CASE OF CONTACT, IMMEDIATELY FLUSH SKIN WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES.

INHALATION: IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN. CALL A PHYSICIAN IMMEDIATELY.

INGESTION: IF SWALLOWED, WASH OUT MOUTH WITH WATER, PROVIDED PERSON IS CONSCIOUS. CALL A PHYSICIAN IMMEDIATELY.

5. FIRE AND EXPLOSION HAZARD DATA:

FLASH POINT (METHOD USED): > 482°F (> 250°C)

FLAMMABLE LIMITS: NA LEL NA UEL NA

EXTINGUISHING MEDIA: WATER SPRAY, CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.

SPECIAL FIRE FIGHTING PROCEDURES: WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.

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5. FIRE AND EXPLOSION HAZARD DATA (CONT):

UNUSUAL FIRE AND EXPLOSION HAZARDS: EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

6. REACTIVITY DATA:

STABILITY: UNSTABLE: STABLE: X

INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZING AGENTS, STRONG ACIDS, STRONG BASES. MAY DISCOLOR ON EXPOSURE TO LIGHT.

HAZARDOUS DECOMPOSITION OF BY-PRODUCTS: TOXIC FUMES OF CARBON MONOXIDE, CARBON DIOXIDE, SULFUR OXIDES, MERCURY/MERCURY OXIDES.

HAZARDOUS POLYMERIZATION: MAY OCCUR: WILL NOT OCCUR: X

7. SPILL OR LEAK PROCEDURES:

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY RUBBER GLOVES. SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL. AVOID RAISING DUST. VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETED.

WASTE DISPOSAL METHODS: OBSERVE ALL FEDERAL, STATE AND LOCAL REGULATIONS.

8. SPECIAL PROTECTION INFORMATION:

RESPIRATORY PROTECTION (SPECIFY TYPE): APPROPRIATE NIOSH/MSHA - APPROVED

VENTILATION: LOCAL EXHAUST: MECHANICAL: OTHER: CHEMICAL FUME HOOD

PROTECTIVE GLOVES: CHEMICAL RESISTANT

EYE PROTECTION: SAFETY GOGGLES

OTHER PROTECTIVE EQUIPMENT: OTHER PROTECTIVE CLOTHING, SAFETY SHOWER AND EYE BATH.

9. SPECIAL PRECAUTIONS:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: DO NOT BREATHE DUST. AVOID CONTACT WITH EYES, SKIN AND CLOTHING, AVOID PROLONGED OR REPEATED EXPOSURE. WASH THOROUGHLY AFTER HANDLING. KEEP TIGHTLY CLOSED. LIGHT SENSITIVE. STORE IN A COOL DRY PLACE.

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9. SPECIAL PRECAUTIONS (CONT):

OTHER PRECAUTIONS: WASH CONTAMINATED CLOTHING BEFORE USE.

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10. OTHER INFORMATION:

POSSIBLE ALLERGIC REACTION TO DUST IF INHALED, INGESTED OR IN CONTACT WITH SKIN. HYPERSENSITIVITY REACTIONS MANIFESTED BY ERYTHEMA, PAPULAR OR VESICULAR ERUPTIONS OCCUR OCCASIONALLY. ALLERGIC CONJUNCTIVITIS HAS BEEN REPORTED. THIS PRODUCT IS SUBJECT TO SARA SECTION 313 REPORTING REQUIREMENTS.

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The information herein is given in good faith but no warranty, expressed or implied, is made.